



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,118	05/31/2001	Mary Lucille DeLucia	KCC-14,859	9826
35844	7590	05/20/2004	EXAMINER	
PAULEY PETERSEN KINNE & ERICKSON 2800 WEST HIGGINS ROAD SUITE 365 HOFFMAN ESTATES, IL 60195			ROSSI, JESSICA	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,118

Applicant(s)

DELUCIA ET AL.

Examiner

Jessica L. Rossi

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/1/04, Amendment.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12, 13 and 15-41 is/are pending in the application.
- 4a) Of the above claim(s) 30-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 13 and 15-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ☒
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment dated 3/1/04. Claims 11 and 14 were canceled. Claims 30-41 are withdrawn from further consideration. Claims 1-10, 12-13, and 15-29 are addressed below.
2. The previous office action dated 6/4/03 indicated the dependent claims (5, 6, 16, 27) pertaining to the creping limitations as allowable. However, upon further searching the examiner found prior art to render these limitations obvious thereby necessitating the need for a second non-final action.

Drawings

3. The replacement drawing was received on 1/26/04. This drawing was accepted.

Terminal Disclaimer

4. The terminal disclaimer filed on 1/26/04 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Number 09/871,171 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1733

6. Claims 1, 4-8, 16, and 24-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshioka (US 3925127).

With respect to claim 1, Yoshioka is directed to making a structured composite material through which fluids can pass (column 1, lines 10-15; column 2, lines 20-21; column 3, lines 17-21; column 5, lines 60-66).

The reference teaches forming first crepe paper layers 1a, 1b (nonwoven web) having a first shrinkage extent (column 5, lines 43-46), forming a second film layer 2 having a second shrinkage extent different from the first (column 2, lines 40-43), bonding the paper layers and film layer to form a composite material (column 3, lines 56-62; column 4, lines 19-25), and shrinking at least one of the paper and film layers to produce the structured composite material (column 5, lines 26-53).

Regarding claim 4, the reference teaches heating the composite material to affect shrinkage (column 5, lines 4-9).

With respect to claim 5, all the limitations were addressed above with respect to claim 1, except creping the composite material. The reference teaches extending the crepes in the crepe paper layers (= further creping) after they have been bonded to the film layer to form the composite, wherein this extended creping coupled with shrinking of the film considerably increases the bulkiness of the composite (column 5, lines 46-49). The skilled artisan would have readily appreciated that further creping of the paper layers would also result from shrinking of the film since the film layer shrinks considerably more than the paper layers thereby causing the paper layers to buckle, or further crepe.

Art Unit: 1733

With respect to claim 6, all the limitations were addressed above with respect to claim 1, except creping the paper layer and stabilizing the creped paper layer by bonding the film layer thereto. The reference teaches creping the paper layer and stabilizing the creped paper layer by bonding it to the film (column 2, lines 20-21; column 3, lines 56-60).

Regarding claim 7, the reference teaches bonding the layers by thermal bonding (column 3, lines 56-61).

Regarding claim 8, the reference teaches stretching the film layer before bonding it to the paper layers (column 4, lines 9-11).

With respect to claim 16, all the limitations were addressed above with respect to claims 1 and 4, except a first homogenous component and a second homogeneous component that are combined to produce a heterogeneous material. The reference teaches the crepe paper layers being homogeneous and the film layer being homogeneous (column 3, line 22-25); therefore, the reference teaches combining the homogeneous components to produce a heterogeneous material.

With respect to claim 24, all the limitations were addressed above with respect to claim 1.

Regarding claim 25, the reference teaches the paper layers shrink relative to the second layer (column 5, lines 43-46).

Regarding claim 26, the reference teaches the film layer shrinks relative to the paper layers (column 5, lines 43-46).

With respect to claim 27, all the limitations were addressed above with respect to claims 1 and 5-6. Note reference teaches creping paper layers before bonding the film thereto and also further creping the paper layers after the bonding step (see claim 5 above), wherein present claim

Art Unit: 1733

language does not exclude creping the first layer before and/or after bonding it to the second layer.

Regarding claim 28, please refer to the rejection of claim 8 above.

Regarding claim 29, the reference teaches pattern embossing the first layer to form thermal bonds that extend through the first layer (Figure 2; column 3, lines 56-62).

7. Claims 1, 4, and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Srinivasan et al. (EP 0687757 of record; refer to US 5567501 for column and line).

With respect to claim 1, Srinivasan is directed to making a structured composite material to accommodate passage of fluids (column 1, lines 14-16). The reference teaches providing a first nonwoven layer 10a/10b having a first shrinkage extent (column 2, line 66 – column 3, line 13), providing a second film layer 12 having a second shrinkage extent different from the first (column 3, lines 7-13; column 4, lines 35-37), bonding the first and second layers to produce the composite material (column 3, lines 34-39), and shrinking at least one of the first and second layers to produce the structured composite material (column 4, line 64 – column 5, line 4; claim 1).

Regarding claim 14, the reference teaches heating to shrink (column 4, lines 14-16).

With respect to claim 24, all the limitations were addressed above with respect to claim 1.

Regarding claim 25, the reference teaches the first layer shrinks relative to the second layer.

Regarding claim 26, the reference teaches the second layer shrinks relative to the first layer.

Art Unit: 1733

8. Claims 5, 16, 19, 21, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Thomas et al. (US 3597299).

With respect to claim 5, Thomas is directed to making a structured composite material for accommodating passage of fluids through it (column 1, lines 12-13). The reference teaches forming a first scrim layer 1 (or 14) having a first shrinkage extent (column 2, lines 54-56; column 5, lines 40-48), forming a second layer comprising fibers 15, 16 having a second shrinkage extent different from the first (column 4, lines 67-75), bonding the second layer to the first layer to form a composite material (column 4, lines 60-66), creping the composite material (Figure 6; column 5, lines 5-15 and 40-48), and shrinking at least one of the first layer and second layer to produce the structured composite material (column 5, lines 40-48).

With respect to claim 16, all the limitations were addressed with respect to claim 5, except a first homogenous component and a second homogeneous component that are combined to produce a heterogeneous material and heating the heterogeneous material. The reference teaches a first homogeneous component having a first shrinkage extent (= the scrim material which is made of nylon; column 5, lines 45-48), a second homogeneous component having a second shrinkage extent different from the first (= fibers 16 made of polypropylene; column 4, lines 69-74), producing a heterogeneous material by combining the scrim and fibers, and heating the heterogeneous material (column 5, lines 5-15).

Regarding claim 19, the reference teaches the fibers 16 comprising polypropylene (column 4, lines 69-74).

Regarding claim 21, the reference teaches the first homogeneous component comprising a scrim material (column 2, lines 58-60).

Art Unit: 1733

Regarding claim 27, all the limitations were addressed above with respect to claim 5, except creping the first scrim layer and heating to shrink. The reference teaches creping the first scrim layer (Figures 5-6; column 3, lines 50-52). Note present claim language does not exclude creping the first layer after applying the second layer thereto to form the composite material. Also, the reference teaches heating to shrink (column 5, lines 40-48).

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

10. Claims 5, 16, 19, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Bevins et al. (US 6491777; of record).

With respect to claim 5, Bevins is directed to forming a structured composite material that can be used as a transfer layer in disposable garments, such as diapers, for accommodating the passage of fluids through it (abstract; column 5, lines 30-31). The reference teaches extruding fibers to form a first layer 8 having a first shrinkage extent (column 4, lines 3-4),

Art Unit: 1733

extruding fibers to form a second layer 14 having a second shrinkage extend different from the first (column 4, lines 18-20), bonding the first and second layers to form the composite (column 4, lines 8-12), creping the composite material (Figure 1; column 4, lines 37-40; column 2, lines 9-14), and shrinking the first layer to a greater extent than the second layer to form the structured composite material (column 4, lines 18-25).

With respect to claim 16, all the limitations were addressed above with respect to claim 5, except the first and second layers being homogeneous and heating to shrink. The reference teaches the first layer/component comprising PET filaments having a denier of about 6 and the second layer/component comprising PET filaments having a denier of about 12-15 such that a heterogeneous material is formed when these homogeneous components are combined (column 3, lines 40-55). The reference also teaches heating to shrink at least one of the components (column 4, lines 17-34).

Regarding claim 19, the reference teaches the second homogenous layer/component comprising polypropylene (column 3, lines 57-62).

With respect to claim 27, all the limitations were addressed above with respect to claim 5, except creping the first layer. The reference teaches creping the first layer (Figure 1); it being noted that the present claim language does not exclude creping the first layer after forming the composite.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 1733

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2-3, 9-10, 12-13, 15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshioka as applied to claims 1, 6, and 16 above.

Regarding claim 2, Applicant is directed to paragraph 6 above for a complete discussion of Yoshioka.

The reference is silent as to the crepe paper layers comprising propylene polymer. However, the reference does teach the paper layers can have artificial fibers incorporated therein to manipulate the properties of the paper (column 3, lines 14-16). The reference goes on to list examples of fibers such as rayon, nylon, etc. (column 3, lines 14-17). The skilled artisan would have appreciated that selection of a particular polymer fiber would have been within purview of the skilled artisan depending on the particular characteristics to be imparted to the paper wherein the skilled artisan would have appreciated that polypropylene fibers are well-known in the art. It is noted that the present invention places no criticality on the material of the first layer.

The reference is silent as to the film comprising an ethylene-propylene copolymer. However, the reference teaches the film comprising thermoplastics such as polyolefins, polyamide, polyethylene, etc. (column 3, lines 22-26). Selection of a particular film would have been within purview of the skilled artisan depending in the desired characteristics thereof wherein the skilled artisan would have appreciated that ethylene-propylene films are well-known in the art. It is noted the present invention places no criticality on the material of the second layer.

Regarding claim 3, the reference teaches shrinking the second layer relative to the first layer (column 5, lines 43-53; note scrim sandwiched between crepe paper layers).

Art Unit: 1733

Regarding claims 9-10, selection of the amount of stretching would have been within purview of the skilled artisan depending on the desired amount of shrinkage to be imparted thereto.

Regarding claims 12-13, selection of the amount of shrinkage would have been within purview of the skilled artisan depending on the intended use of the final product and its required bulkiness.

Regarding claim 17, it would have been obvious to the skilled artisan at the time the invention was made to add fillers to at least one of the paper layers and film layer because fillers are well-known and conventional in the art and they allow for the properties of a material to be manipulated.

Regarding claims 18-19, please refer to the rejection of claim 2 above.

Regarding claim 15, the reference teaches heating by hot air, radiation heat, or otherwise (column 5, lines 4-6). Selection of a particular mechanism for applying the hot air (i.e. gun) or the radiation (i.e. infrared) would have been within purview of the skilled artisan especially since Applicant's claimed heating methods are notoriously well-known and conventional.

13. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivisan et al. as applied to claim 1 above.

Regarding claim 2, Applicant is directed to paragraph 7 above for a complete discussion of Srinivisan. The reference teaches the nonwoven layer comprising polypropylene (column 3, lines 5-7) and the film comprising an olefinic material (column 3, lines 11-13) but is silent as to the film layer comprising an ethylene-propylene copolymer. Selection of a particular film would have been within purview of the skilled artisan depending in the desired characteristics thereof

Art Unit: 1733

wherein the skilled artisan would have appreciated that ethylene-propylene films are well-known in the art. It is noted the present invention places no criticality on the material of the second layer.

14. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al. as applied to claim 16 above.

Regarding claim 17, Applicant is directed to paragraph 8 above for a complete discussion of Thomas. It would have been obvious to the skilled artisan at the time the invention was made to add fillers to at least one of the components because fillers are well-known and conventional in the art and they allow for the properties of a material to be manipulated.

15. Claims 18, 20, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al. as applied to claim 16 above and further in view of Pike et al.

Regarding claims 18, Applicant is directed to paragraph 8 above for a complete discussion of Thomas. Selection of particular materials for the scrim fibers would have been within purview of the skilled artisan at the time the invention was made depending on the desired characteristics of the finished product. The skilled artisan reading the reference as a whole would have appreciated that the scrim is not limited to a particular material and therefore it would have been obvious to use a random copolymer because such fibers are known in the art, as taught by Pike (p. 5, lines 30-31; p. 17, lines 50-52).

Regarding claims 20 and 22, Thomas is silent as to melt spinning the components to produce the heterogeneous material. Selection of a particular method would have been within purview of the skilled artisan absent any unexpected results. However, it would have been

Art Unit: 1733

obvious to use melt spinning because such is known in the art, as taught by Pike (p. 3, lines 34-35).

Regarding claim 23, the reference teaches the scrim shrinking relative to the fibers (column 5, lines 40-48).

16. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bevins et al. as applied to claim 16 above.

Regarding claim 17, Applicant is directed to paragraph 10 above for a complete discussion of Bevins. It would have been obvious to the skilled artisan at the time the invention was made to add fillers to at least one of the components because fillers are well-known and conventional in the art and they allow for the properties of a material to be manipulated.

17. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bevins et al. as applied to claim 16 above and further in view of Pike et al. (EP 0586924; of record).

Regarding claim 18, Applicant is directed to paragraph 10 above for a complete discussion of Bevins. Bevins teaches the components can comprise any suitable thermoplastics (column 3, lines 58-60). Selection of a particular thermoplastic would have been within purview of the skilled artisan depending on the desired characteristics thereof. However, it would have been obvious to use a random copolymer because such is known in the art where two homogeneous fiber components are combined to form a heterogeneous material that is differentially shrunk, as taught by Pike (p. 7, lines 10-15 and 55-58; p. 5, lines 11-13 and **23-31**, p. 6, lines 2-3).

18. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bevins et al. as applied to claim 27 above and further in view of Kurihara et al. (US 5789328; of record).

Art Unit: 1733

Regarding claim 28, Applicant is directed to paragraph 10 above for a complete discussion of Bevins. The reference is silent as to stretching the second layer before bonding/applying it to the first layer. It is known in the art to form nonwoven webs by bonding a first fiber layer having a first shrinkage extent to a second fiber layer having a shrinkage extent different than the first and heating to shrink the layers to form a structured composite where the second layer is stretched before bonding, as taught by Kurihara (column 4, lines 57-65; column 5, lines 5-6 and 15-18; column 8, lines 52-57).

It would have been obvious to the skilled artisan to stretch the second layer of Bevins before bonding/applying because such is known in the art, as taught by Kurihara, where this would further facilitate shrinking of the second layer upon heating.

19. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bevins et al. as applied to claim 27 above and further in view of Kaiser (US 5491016; of record).

Regarding claim 29, Applicant is directed to paragraph 10 above for a complete discussion of Bevins. The reference teaches thermal bonding (column 4, lines 8-10) but is silent as to the thermal bonding being pattern embossing. Selection of a particular thermal bonding method would have been within purview of the skilled artisan. However, it would have been obvious to use pattern embossing because such is known in the art, as taught by Kaiser (column 2, lines 15-17).

Response to Arguments

20. Applicant's arguments filed 3/1/04 have been fully considered but they are not persuasive.

Art Unit: 1733

21. On page 10 of the arguments, Applicant argues that Kaiser fails to teach a nonwoven web having a first shrinkage extent and a film having a second shrinkage extent.

The examiner points out that Kaiser was only used to show that pattern embossing is known in the art.

22. On page 10 of the arguments, Applicant argues that Pike and Srinivisan fail to teach fail to teach the creping limitations that were added to claims 5-6, 16, and 27.

The examiner points out that Pike was only used to show that a random copolymer and melt spinning are known in the art. The examiner respectfully points out that Srinivisan was only used as art against the claims pertaining to a nonwoven layer and a film layer and was never relied upon for creping.

23. On page 11 of the arguments, Applicant argues that Bevins fails to teach a nonwoven and a film.

The examiner points out that Bevins was not used to reject the claims (1, 24) pertaining to a nonwoven and a film.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jessica L. Rossi
Patent Examiner
Art Unit 1733

JLR

Jeff H. Ostergut
JEFF H. OSTERGUT
PRIMARY EXAMINER
GROUP 1300